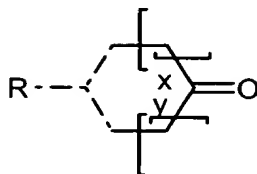


WHAT IS CLAIMED IS:

1. Macrocyclic ketones of the general formula



5 in which

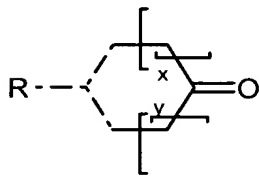
R is a lower alkyl or lower alkylidene group,

x = 5 and y = 7, or

10 x = 6 and y = 6, and

the dashed lines are, independently of one another, a C-C single bond or a C=C double bond.

- 15 2. Macrocyclic ketones according to Claim 1 of the formula



in which

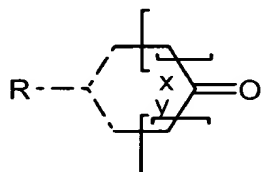
R is methyl or ethyl.

20

3. A macrocyclic ketone according to Claim 1, wherein said
 macrocyclic ketone is 8-Methylenecyclohexadecanone, 9-
 methylenecyclohexadecanone, 8-ethylenecyclohexadecanone, 9-
 ethylenecyclohexadecanone, 8-methyl-(E/Z)-7/(E/Z)-8-cyclo-
 25 hexadecenone, 9-methyl-(E/Z)-8-cyclohexadecenone, 8-ethyl-(E/Z)-

7/(E/Z)-8-cyclohexadecenone, 9-ethyl-(E/Z)-8-cyclohexadecenone, 8-methylcyclohexadecanone, 9-methylcyclohexadecanone, 8-ethylcyclohexadecanone or 9-ethylcyclohexadecanone.

- 5 4. Fragrance compositions comprising macrocyclic ketones of the general formula



in which

- 10 R is a lower alkyl or lower alkylidene group,

x = 5 and y = 7, or

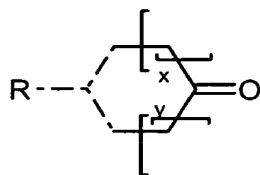
x = 6 and y = 6, and

- 15 the dashed lines are, independently of one another, a C-C single bond or a C=C double bond.

5. A fragrance composition according to Claim 4, wherein said fragrance has a muscone note.

20

6. A process for the preparation of the lower alkyl or lower alkylidene substituted cyclohexadecenones or cyclohexadecanones of the formula



25

in which

the dashed lines, independently of one another, are a C-C single bond or a C=C double bond,

5

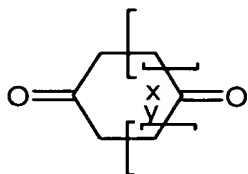
R is a lower alkyl or lower alkylidene group,

x = 5 and y = 7, or

x = 6 and y = 6,

10

wherein a cyclohexadecanedione of the formula



in which

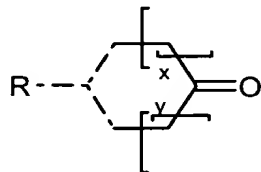
15

x and y have the meaning given above,

is used as starting material, and in a first step is reacted with a lower alkyltriphenylphosphonium halide and a strong base in an aprotic solvent, and the resulting lower alkylidene-cyclohexadecanones are optionally isomerized and hydrogenated.

20

7. A process for the preparation of lower alkyl or lower alkylidene-substituted cyclohexadecanones of the formula



25

in which

the dashed lines, independently of one another, are a C-C single
5 bond or a C=C double bond,

R is a lower alkyl or lower alkylidene group,

10 $x = 5$ and $y = 7$, or
 $x = 6$ and $y = 6$,

wherein, in a first step, the keto function is protected via an ethylene acetal, then a Wittig reaction is carried out and the protective group is cleaved off and, in further steps, an isomerization and hydrogenation is optionally carried out.

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